

ELECTRICAL SYMBOLS	
SYMBOL	DESCRIPTION
	NIGHT LIGHT FIXTURE, WALL MTD
	1' X 4' FLUORESCENT LIGHT FIXTURE, CLG MTD
	2' X 4' FLUORESCENT LIGHT FIXTURE, CLG RECESSED MTD
	1' X 8' FLUORESCENT LIGHT FIXTURE, CLG MTD
	4' FLUORESCENT STRIP, CLG MTD
	STREET LIGHT AND BRACKET ARM MTD ON METALLIC POLE, SEE DETAILS ON SHEET E-6
	STREET LIGHT AND BRACKET ARM MTD ON EXISTING UTILITY POLE, SEE DETAILS ON SHEET E-6
\$a	LIGHT SWITCH, SINGLE POLE, 20A, FLUSH MTD +48" OR AS NOTED, CONTROLLING OUTLET(S) "a"
4\$a	LIGHT SWITCH, 4-WAY, 20A, FLUSH MTD +48" OR AS NOTED, CONTROLLING OUTLET(S) "a"
3\$a	LIGHT SWITCH, 3-WAY, 20A, FLUSH MTD +48" OR AS NOTED, CONTROLLING OUTLET(S) "a"
2\$a	SWITCH, 2 POLE, 15A, FLUSH MTD +48" OR AS NOTED, CONTROLLING OUTLET(S) "a"
	RECEPTACLE, SINGLE, NEMA 5-15R, FLUSH MTD +7'-0"
	SPECIAL PURPOSE RECEPTACLE, NEMA 6-15R, FLUSH MTD +7'-0"
	RECEPTACLE, DUPLEX, NEMA 5-20R, FLUSH MTD +18" OR AS NOTED
	RECEPTACLE, DUPLEX, NEMA 5-20R, GFI TYPE, FLUSH MTD +18" OR AS NOTED
	TELEPHONE OUTLET, FLUSH MTD +18" OR AS NOTED
	ELECTRICAL EQUIPMENT CONNECTION
	JUNCTION BOX, 4-11/16" SQ MINIMUM, CEILING OR WALL MTD RESPECTIVELY, HEIGHT AS NOTED FOR WALL MOUNT
	ELECTRIC PANELBOARD
	TELEPHONE CABINET
	ELECTRIC SERVICE EQUIPMENT
	2' X 4' PULLBOX PER HECO REQUIREMENTS & APPROVAL
	2' X 4' PULLBOX PER HTCO REQUIREMENTS & APPROVAL
	12" X 20" STREET LIGHT PULLBOX, SIMILAR TO HC & D TYPE "B" METER BOX WITH "LIGHT" INSCRIBED ON COVER
	CORD AND PLUG
	CONDUIT CONCEALED ABOVE CLG OR IN WALL
	CONDUIT CONCEALED BELOW FINISH GRADE
	EXPOSED CONDUIT
	TELEPHONE CONDUIT, 3/4"C MINIMUM WITH PULLWIRE
	FLEXIBLE CONDUIT, LIQUID TIGHT IN DAMP OR WET LOCATIONS
	CONDUIT STUB
	HOMERUN TO ELECTRIC PANELBOARD OR AS NOTED
	GREEN GROUND WIRE IN CONDUIT
	LIGHT FIXTURE TYPE INDICATOR, TYPE "A" INDICATED WITH TWO - 32 WATT LAMPS, SEE SHEET E-3
	DUCT SECTION INDICATOR, SECTION "A" INDICATED, SEE DUCT SECTION DETAILS ON SHEET E-5
WP	DENOTES WEATHERPROOF DEVICE OR EQUIPMENT
NL	DENOTES NIGHT LIGHT CIRCUIT



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Donald S. S.
5/23/94

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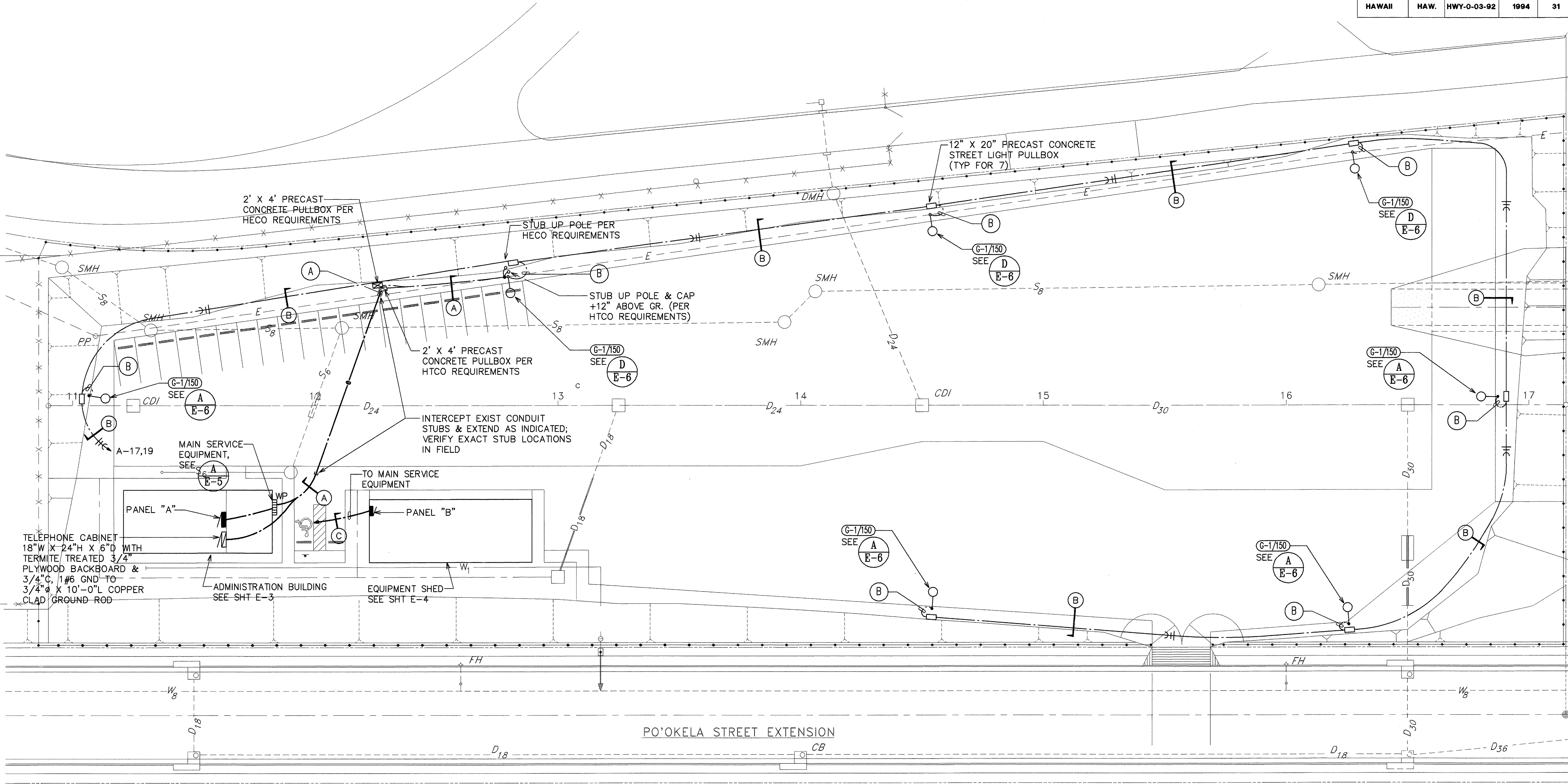
CKT. NO.	BREAKER		USE: L-LTS, R-RECEP, PFB-PROV. FUT. BKR., S-SPARE	KVA ON BUSES		WIRE SIZE
	POLE	AMPS		L1	L2	
1 2	1 1	20 20	R-OFFICE L-OFFICE	0.7 0.6		12 12
3 4	1 1	20 20	R-OFFICE L-LOCKER RM, STORAGE RM		0.7 0.6	12 12
5 6	1 1	20 20	R-LOCKER RM, STORAGE RM L-STAGING RM	1.1 0.9		12 12
7 8	1 1	20 20	R-STAGING RM S		1.1 1.0	12
9,11 10	2 1	30 20	WATER HEATER S	2.3 1.0	2.3	10
12	1	20	NL-ADMIN BLDG		0.6	12
13,15 14	2 1	15 15	R-AC OFFICE R-AC STAGING RM	1.2 1.4	1.2	12 12
16	1	15	R-AC STAGING RM		1.4	12
17,19 18	2 1	20 20	L-AREA LIGHTING S	0.7 1.0	0.7	8
20,22	2	50	R-FUTURE RANGE	4.0	4.0	6
21			PFB	1.0		
23 24			PFB PFB		1.0 1.0	
TOTAL CONNECTED LOAD PER LEG IN KVA				15.9	15.6	HIGH LEG AMP
TOTAL CONNECTED LOAD IN KVA					31.5	
DEMAND FACTOR					80%	
TOTAL DEMAND LOAD IN KVA					25.2	106

CKT. NO.	BREAKER		USE: L-LTS, R-RECEP, PFB-PROV. FUT. BKR., S-SPARE	KVA ON BUSESSES		WIRE SIZE
	POLE	AMPS		L1	L2	
1	1	20	R	0.8		12
2	1	20	NL	0.2		12
3	1	20	L		1.3	12
4, 6	2	100	R-FUTURE ARC WELDER	8.0	8.0	2
5			PFB	1.0		
7			PFB		1.0	
8			PFB		1.0	
9			PFB	1.0		
10			PFB	1.0		
11			PFB		1.0	
12			PFB		1.0	
TOTAL CONNECTED LOAD PER LEG IN KVA				12.0	13.3	
TOTAL CONNECTED LOAD IN KVA					25.3	HIGH LEG AMP
DEMAND FACTOR					80%	
TOTAL DEMAND LOAD IN KVA					20.2	89

ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
NOTE BOOK	DRAWN BY _____	_____
	TRACED BY _____	_____
	DESIGNED BY _____	_____
	QUANTITIES BY _____	_____
NO. _____	CHECKED BY _____	_____

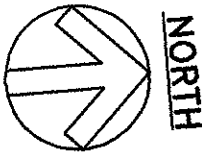
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-92	1994	31	35



NOTE(S):

- CONTRACTOR SHALL CALL HTCO INSPECTOR, CLIFF YIM, AT 831-4057, PRIOR TO CONSTRUCTION.



ELECTRICAL SITE PLAN SCALE: 1"=20'-0"

E-2

6/17/94	REVISED TELEPHONE CABINET GROUNDING
6/17/94	ADDED NOTE 1.
6/17/94	REVISED HEIGHT OF HTCO STUB UP AT EXIST. UTILITY POLE PER HTCO
DATE	REVISION



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Ronald N.S. Ho
5/23/94

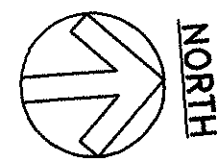
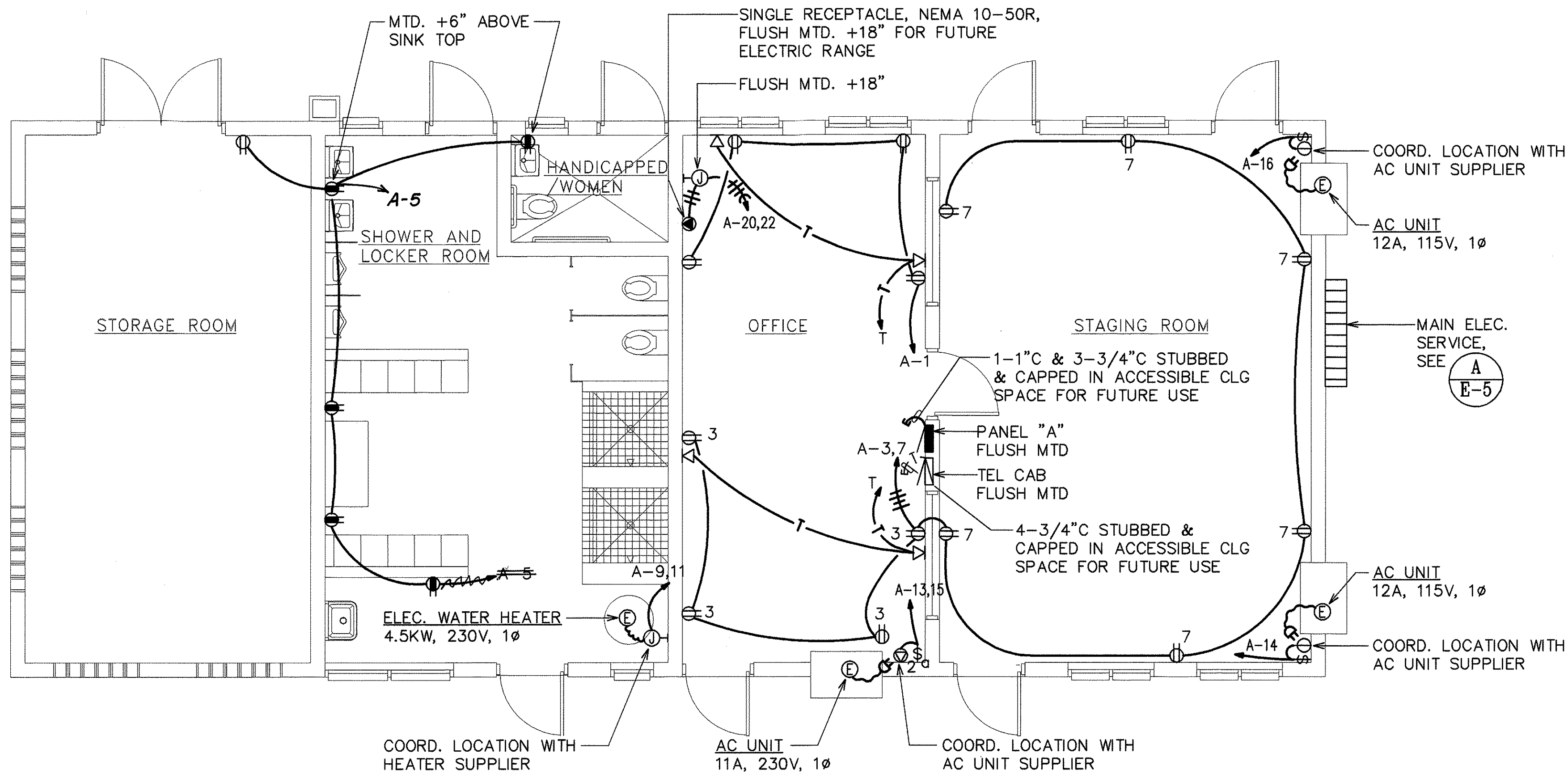
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL SITE PLAN

Kaneohe Base Yard, Phase II
ADMINISTRATION BUILDING
PROJECT NO. HWY-0-03-92

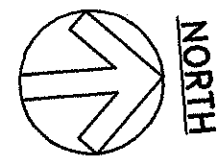
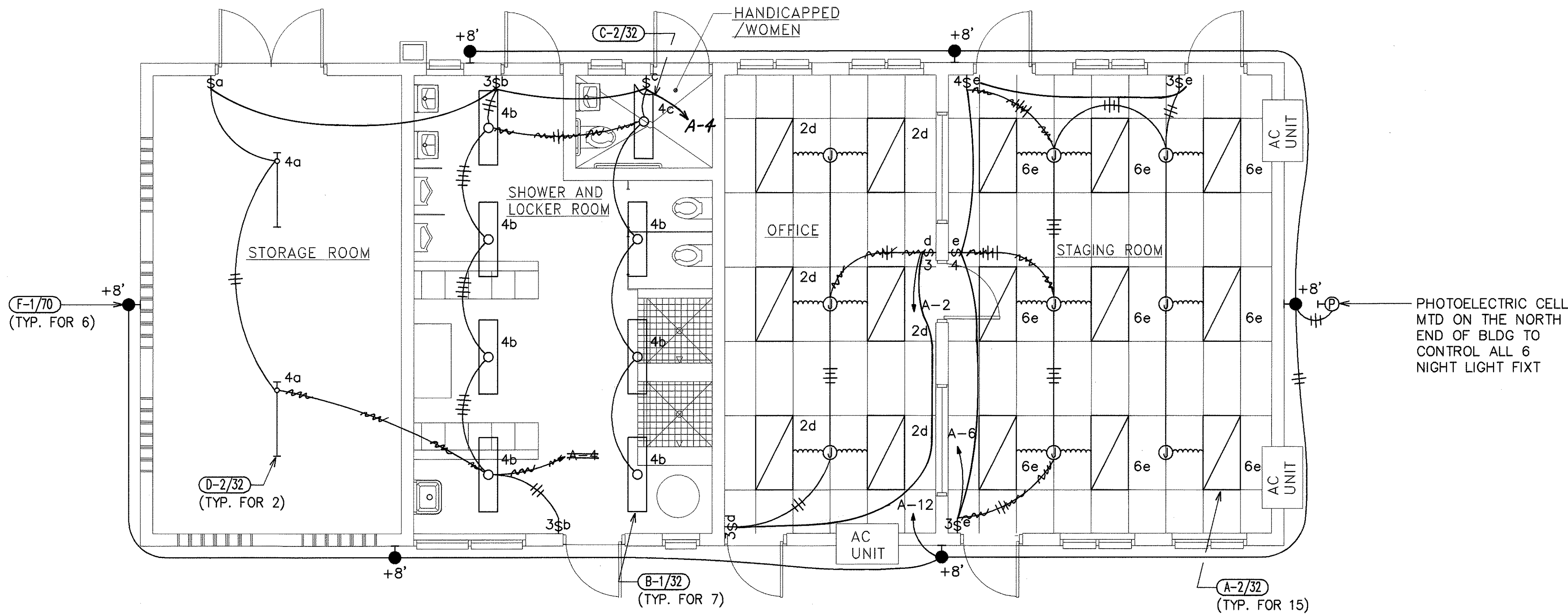
SCALE: AS NOTED
SHEET NO. 31 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-92	1994	32	35



ADMINISTRATION BUILDING POWER AND SIGNAL PLAN
SCALE: 1/4" = 1'-0"

LIGHT FIXTURE SCHEDULE				
TYPE	LAMPS	MOUNTING	DESCRIPTION	MANUFACTURER OR APPROVED EQUAL
A	2-32W T-12 RS,CW,ES	CEILING RECESSED	2' X 4' FLUORESCENT FIXTURE, DIE FORMED AND EMBOSSED CODE GAUGE STEEL HOUSING, 100% CLEAR PRISMATIC ACRYLIC PATTERN 12 LENS, BAKED WHITE ENAMEL FINISH, HPF ENERGY SAVING BALLAST, 120V	COLUMBIA 5PS2G-52-242 SERIES OR METALUX 2G-240 SERIES
B	1-32W T-12 RS,CW,ES	CEILING SURFACE	1' X 4' FLUORESCENT FIXTURE, HEAVY DIE FORMED ALUMINUM, FULLY GASKETED HOUSING, ONE PIECE FORMED IMPACT RESISTANT ACRYLIC DIFFUSER, HIGH GLOSS BAKED WHITE ENAMEL FINISH, UL LISTED FOR DAMP LOCATIONS, HPF ENERGY SAVING BALLAST, 120V	COLUMBIA LU140 DMR SERIES OR METALUX AVT-140 SERIES
C	2-32W T-12 RS,CW,ES	CEILING SURFACE	SIMILAR TO TYPE "B" EXCEPT FOR THE NUMBER OF LAMPS	COLUMBIA LU240 DMR SERIES OR METALUX AVT-240 SERIES
D	2-32W T-12 RS,CW,ES	CEILING SURFACE	6" X 4' FLUORESCENT STRIP, HEAVY DIE FORMED STEEL CHANNEL 4' WIRE GUARD, HIGH GLOSS BAKED WHITE ENAMEL FINISH, HPF ENERGY SAVING BALLAST, 120V	COLUMBIA CS240 SERIES OR METALUX SS-240 SERIES
E	4-32W T-12 RS,CW,ES	CHANNEL	SIMILAR TO TYPE "B" EXCEPT 1' X 8' TANDEM FLUORESCENT FIXTURE	COLUMBIA LU240-8-DMR SERIES OR METALUX 8T-AVT-240 SERIES
F	1-70W HPS	WALL SURFACE	H.I.D. FIXTURE, DIE CAST ALUMINUM HOUSING, VANDAL RESISTANT POLYCARBONATE REFRACTOR, DARK BRONZE FINISH, PHOTOELECTRIC CONTROL KIT, TAMPER RESISTANT HARDWARE, UL LISTED FOR WET LOCATIONS, HPF REACTOR BALLAST, 120V	GE W1LR SERIES OR DEVINE MMP 20 SERIES OR GUTH B18804 SERIES
G	1-150W HPS	BRACKET & POLE ASSEMBLY SEE DET. A/E-6; BRACKET MTD ON EXIST POLE, SEE DET D/E-6	ROADWAY LUMINAIRE WITH DIE CAST ALUMINUM HOUSING, ACRYLIC PRISMATIC REFRACTOR, CHARCOAL FILTER WITH ELASTOMER GASKET, IES DISTRIB. TYPE MEDIUM/ SEMI-CUTOFF/ TYPE III, PHOTOELECTRIC CONTROL, HPF REACTOR BALLAST, 240V	GE M2AR SERIES OR COOPER OVZ SERIES



ADMINISTRATION BUILDING LIGHTING PLAN
SCALE: 1/4" = 1'-0"

6/17/94	REVISED LIGHT FIXTURE SCHEDULE MANUF FOR TYPE F AND G FIXTURE.
DATE	REVISION



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ADMIN. BLDG. POWER & SIGNAL PLAN,
LIGHTING PLAN, LT. FIXT. SCHED.

KANEOHE BASE YARD, PHASE II

ADMINISTRATION BUILDING

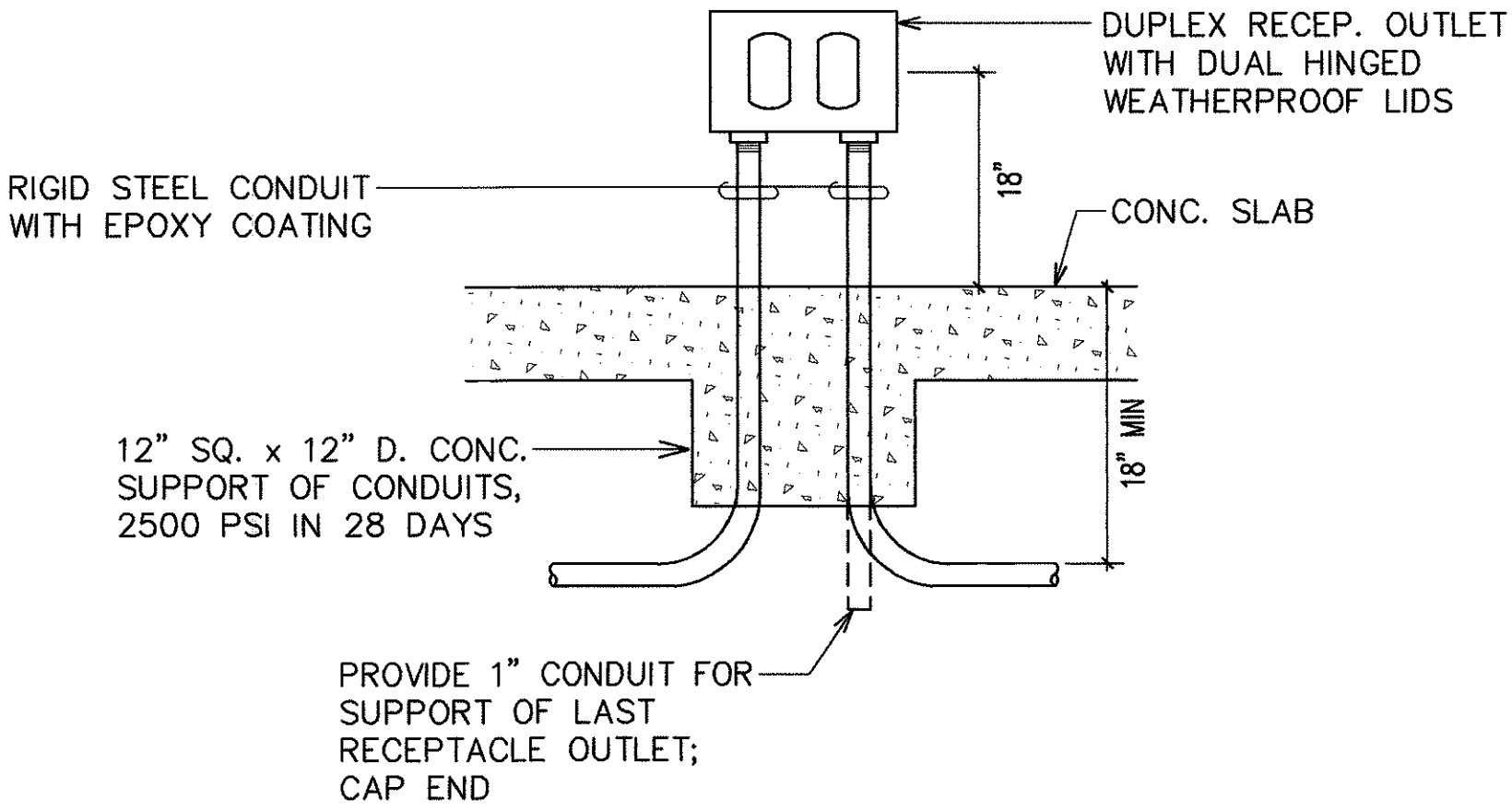
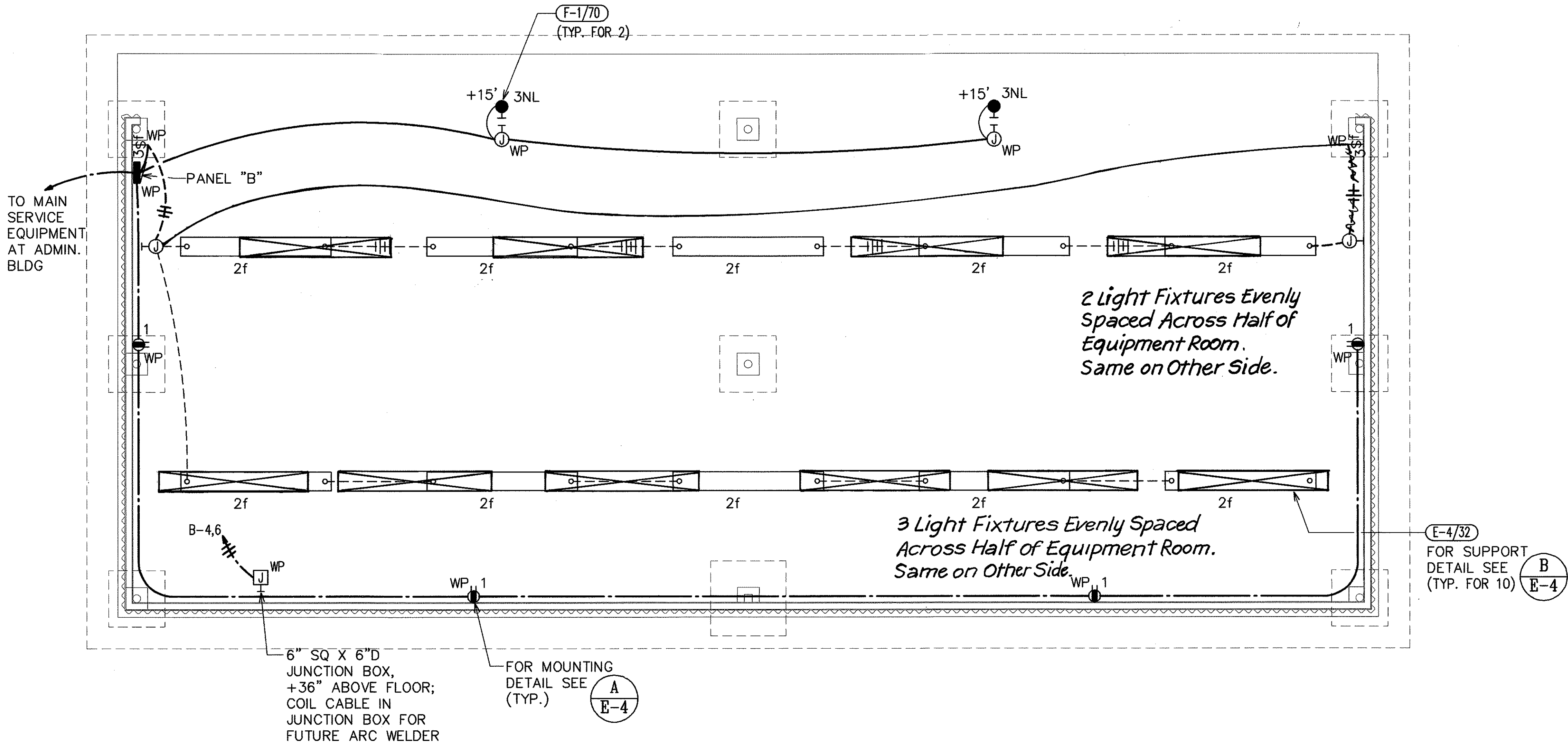
PROJECT NO. HWY-0-03-92

SCALE: AS NOTED DATE:
SHEET NO. 32 OF 35 SHEETS

E-3

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Ronald N.S. Ho
5/23/94

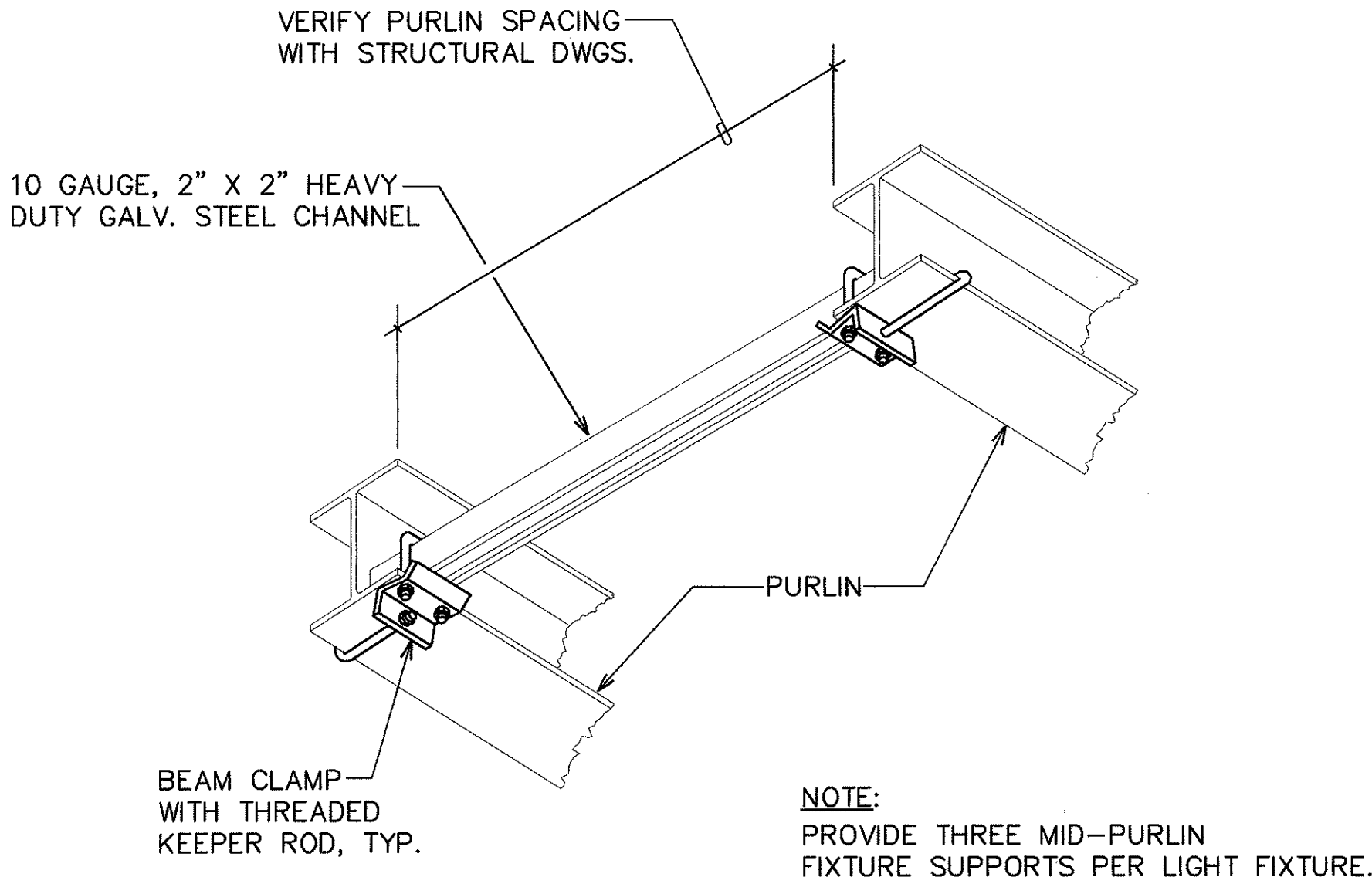
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-92	1994	33	35



CONDUIT MOUNTED RECEPTACLE DETAIL
NTS

EQUIPMENT SHED ELECTRICAL PLAN
SCALE: 1/4"=1'-0"

LIGHT LIMIT CALCULATIONS				
ROOM	AREA (SF)	WATTS PER SF	ALLOWED WATTS	ACTUAL WATTS
STAGING ROOM	428	3.0	1,284	648
OFFICE	280	3.0	840	504
SHOWER & LOCKER ROOM	350	1.0	350	294
WOMEN'S BATHROOM	37	1.0	37	72
STORAGE ROOM	329	0.5	165	144
EQUIPMENT SHED	1,625	1.0	1,625	1,440
ADMIN. BLDG. PERIMETER	175 LF	5.0 W/LF	875	420
EQUIPMENT SHED PERIMETER	65 LF	5.0 W/LF	325	140
TOTAL			5,501	3,662



MID-PURLIN FIXTURE SUPPORT DETAIL
NTS

DATE	REVISION
9/15/94	REVISED DUPLEX RECPTACLE MOUNTING HEIGHT TO 18"

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Ronald N.S. Ho

5/23/94

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EQUIPMENT SHED ELECTRICAL PLAN,
LT. LIMIT CALC., MISC. DETAILS

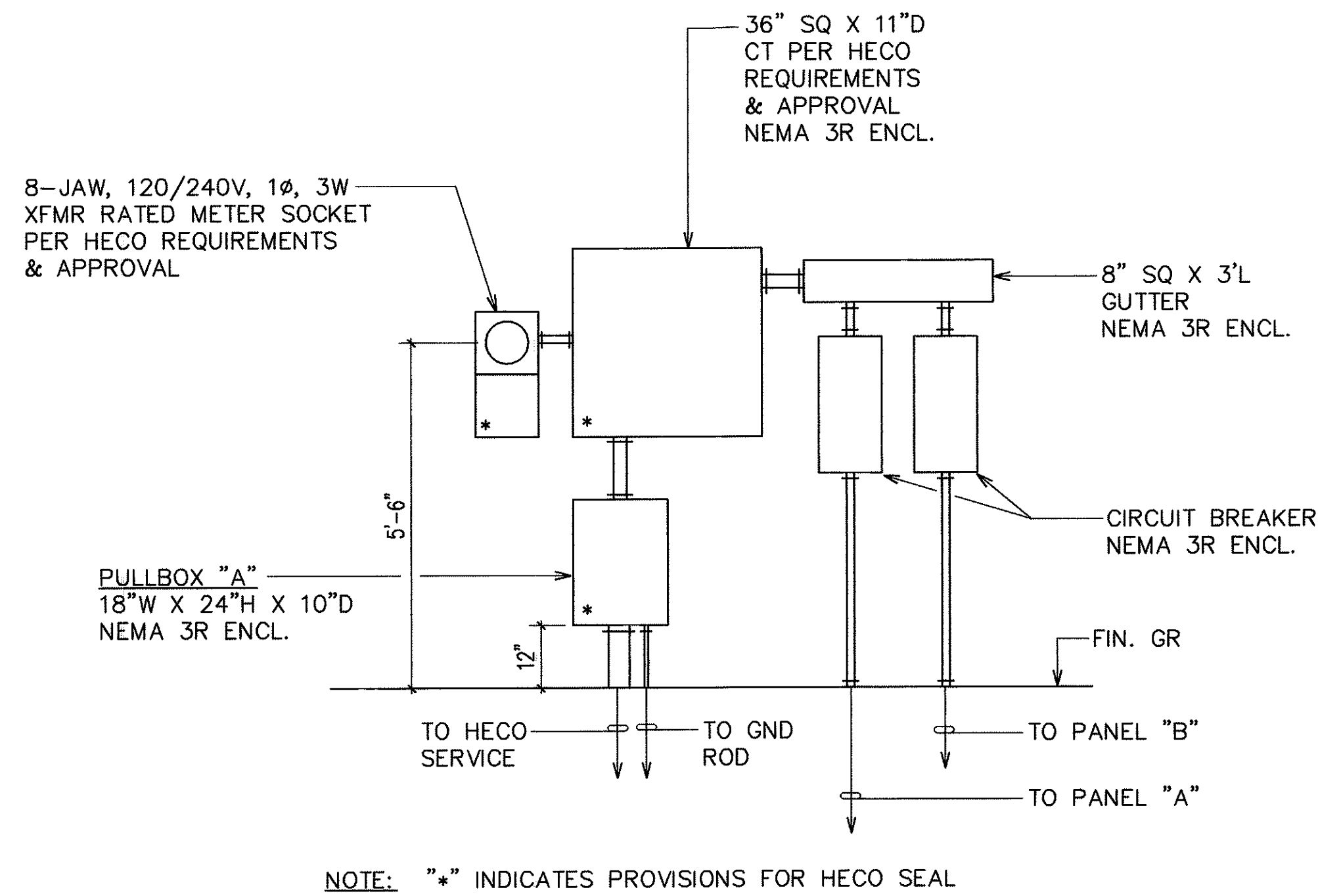
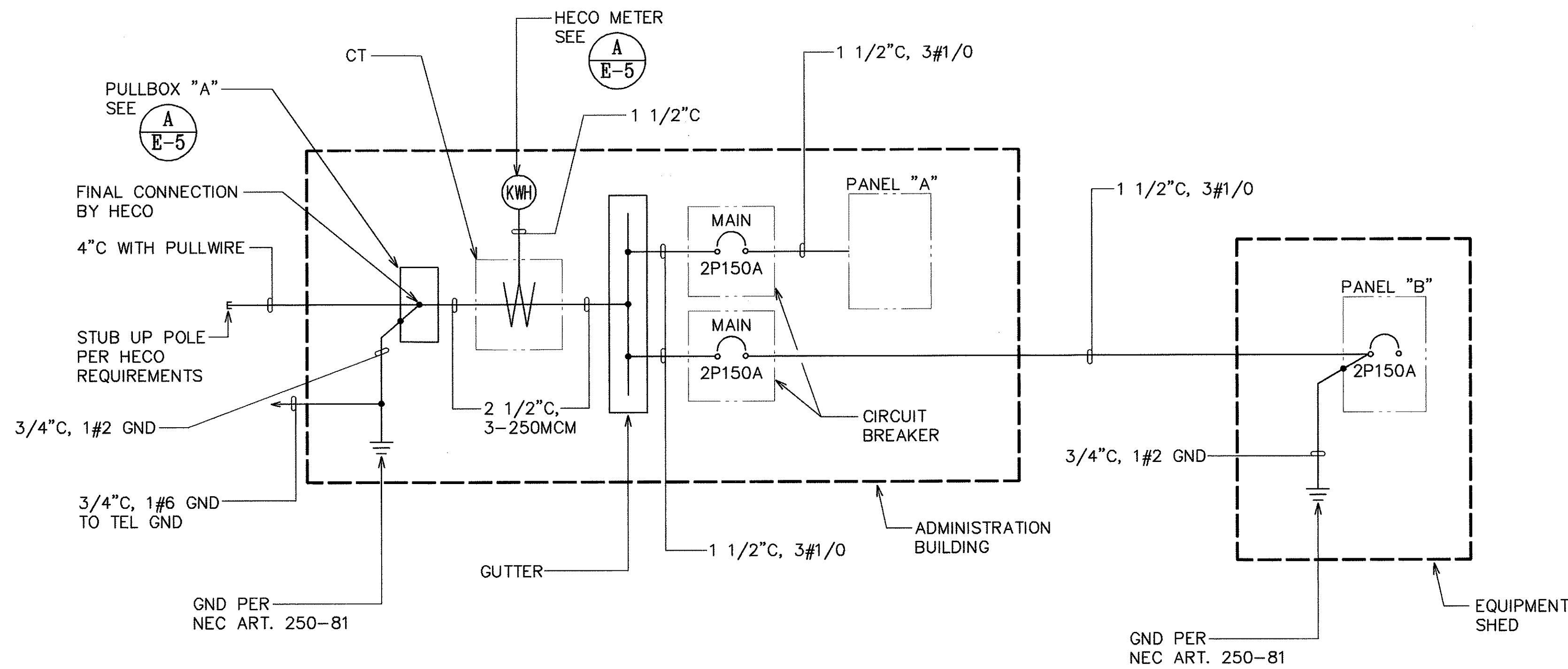
KANEOHE BASE YARD, PHASE II
ADMINISTRATION BUILDING
PROJECT NO. HWY-0-03-92

SCALE: AS NOTED DATE:

SHEET NO. 33 OF 35 SHEETS

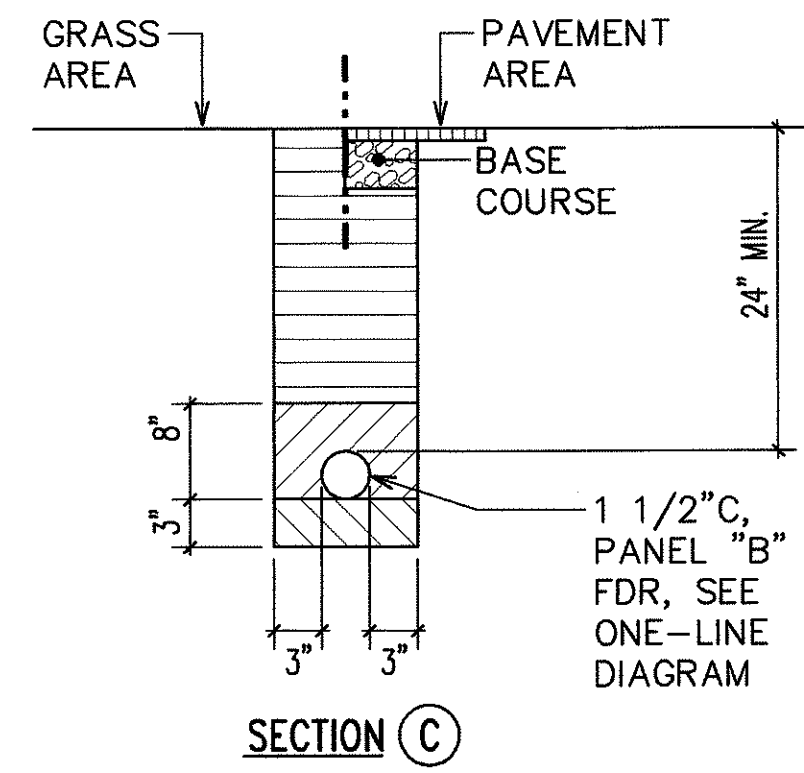
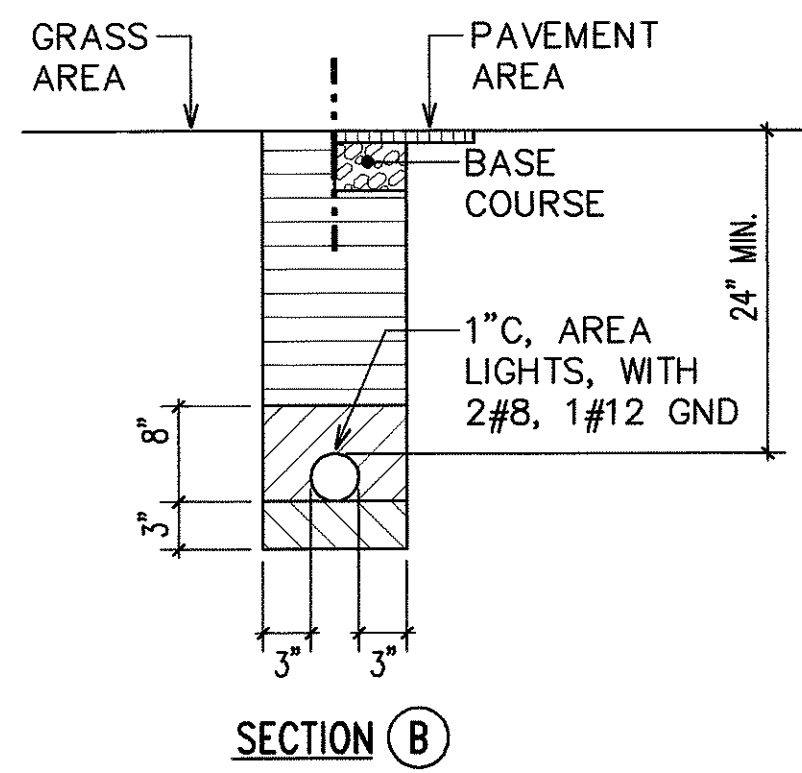
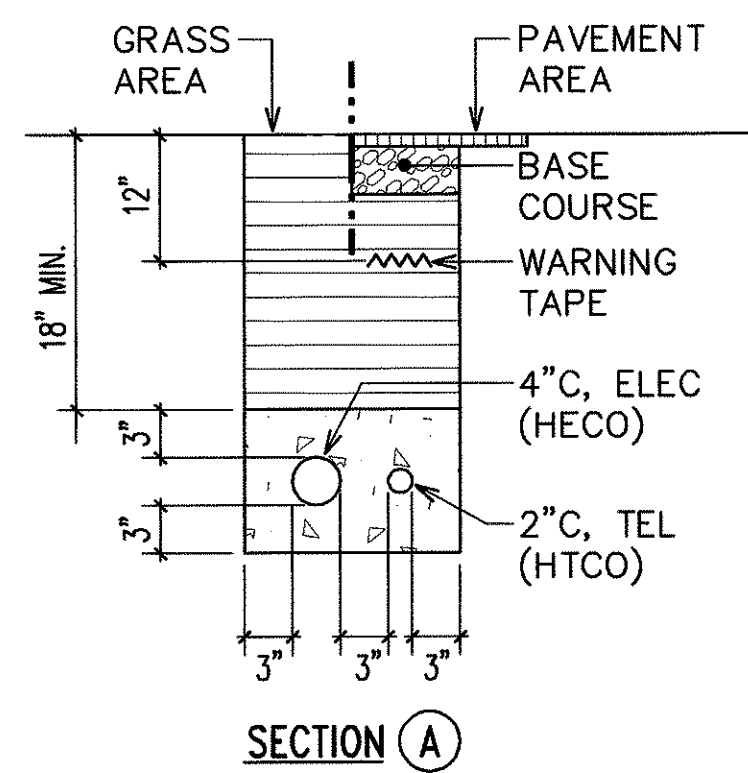
E-4

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-92	1994	34	35



BACKFILL NOTES:

- TYPE "A" BACKFILL - EARTH & GRAVEL. ROCK SIZE TO BE 1" MAX. & THE MIXTURE TO CONTAIN NOT MORE THAN 50% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION.
- TYPE "B" BACKFILL - EARTH & GRAVEL. MIXTURE MUST PASS A 1/2" MESH SCREEN & CONTAIN NOT MORE THAN 20% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION.
- NOTE - IF NORMAL MATERIAL AT BOTTOM OF TRENCH IS NOT TYPE "B", AN ADDITIONAL 3" SHALL BE EXCAVATED & TYPE "B" BACKFILL PROVIDED.
- CONCRETE - 3" ENCASEMENT, 3000 psi COMPRESSIVE STRENGTH @ 28 DAYS.

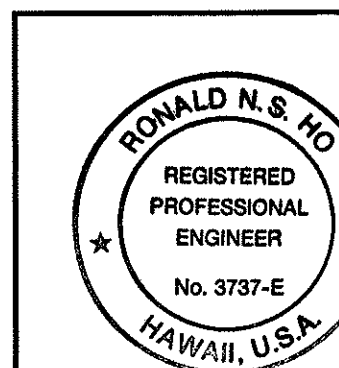


DUCT SECTION DETAILS

N.T.S.

E-5

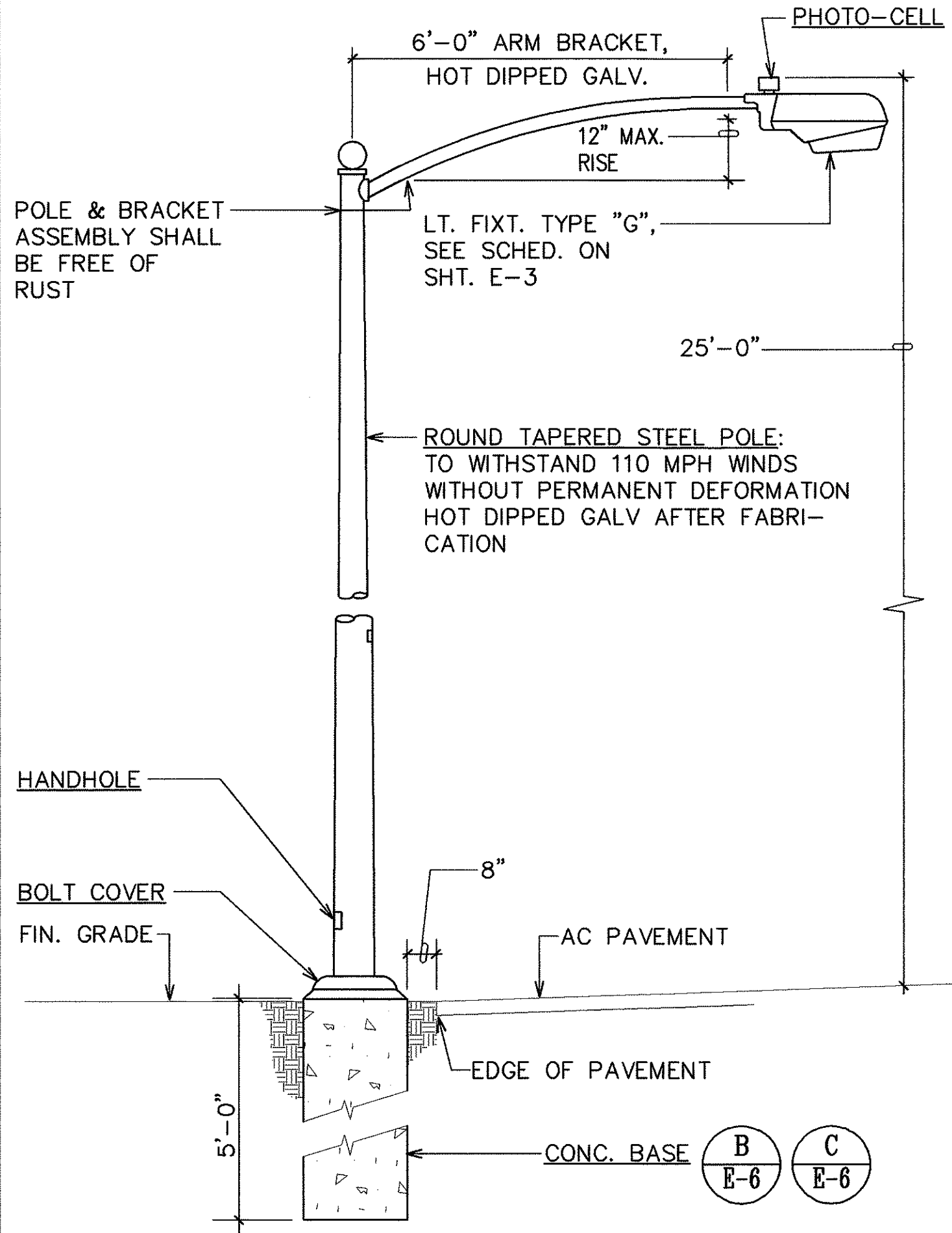
DATE	REVISION
8/29/94	REVISED SIZE OF PULLBOX "A"
6/17/94	REVISED GROUNDING ON ONE-LINE DIAGRAM



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5/23/94

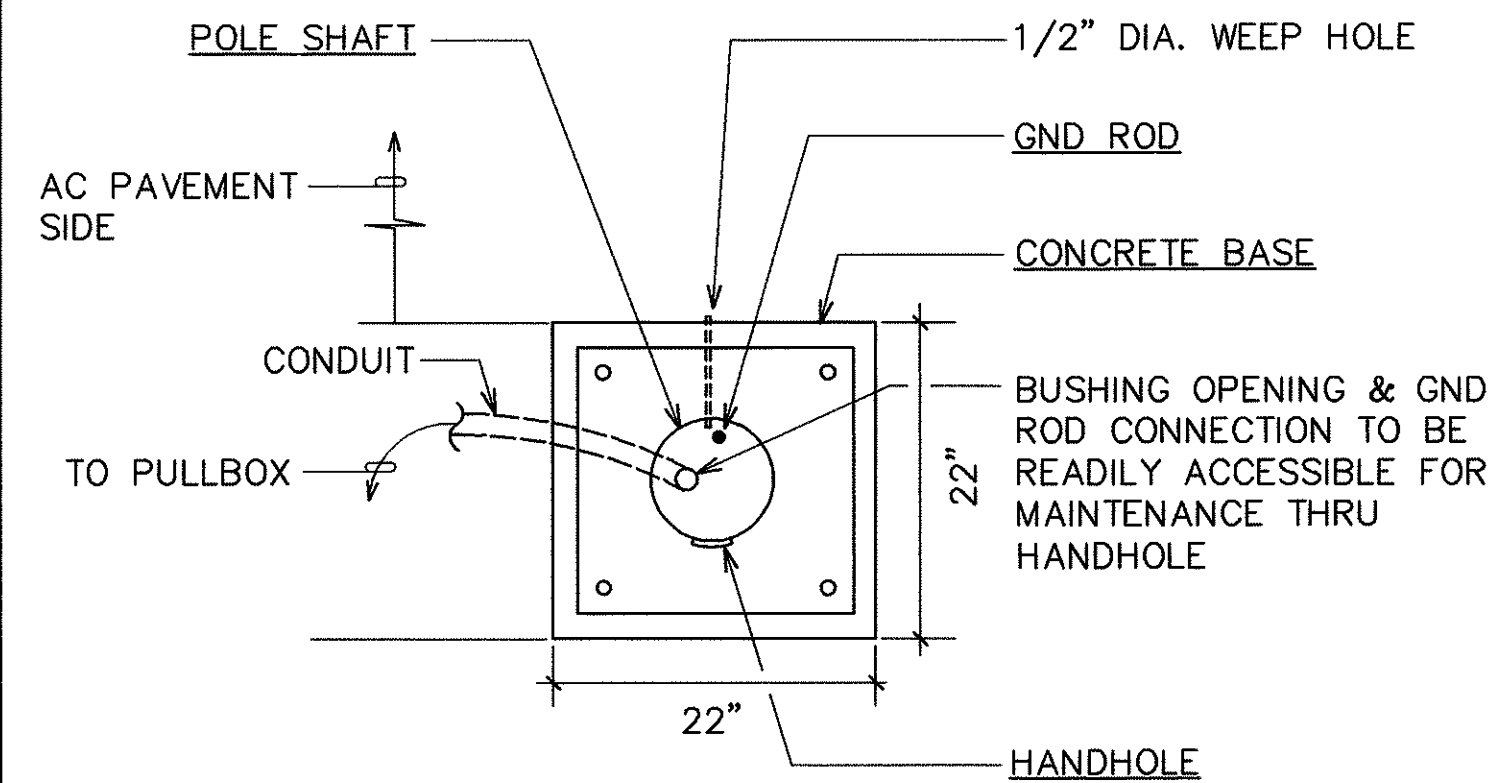
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
ONE-LINE DIAGRAM, SERVICE ENTRANCE EQUIP. ELEV., DUCT SECTION DETAILS
KANEOHE BASE YARD, PHASE II
ADMINISTRATION BUILDING
PROJECT NO. HWY-0-03-92
SCALE: AS NOTED
SHEET NO. 34 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-92	1994	35	35

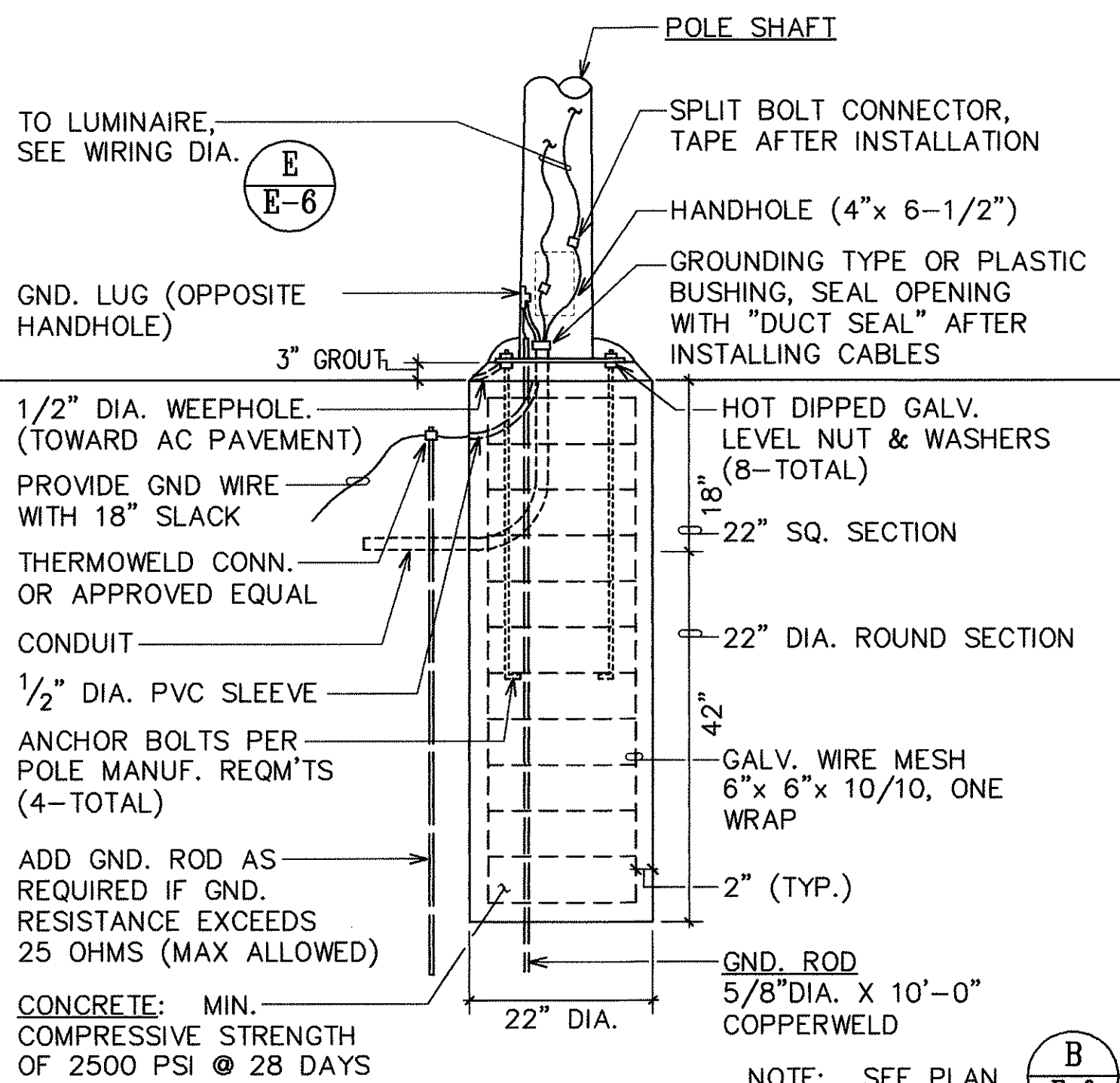


ELEVATION

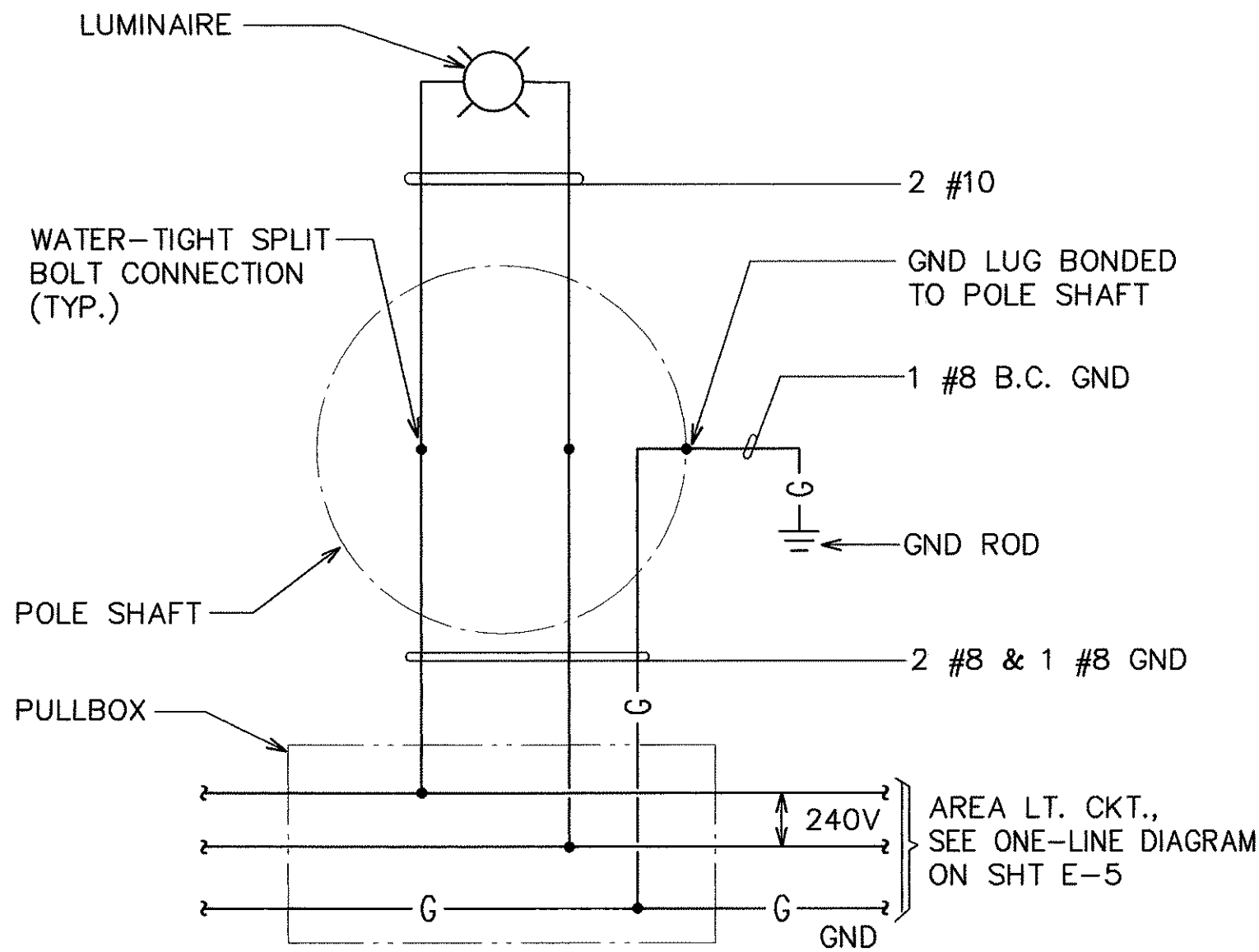
A
E-6
AREA LIGHT STANDARD DETAIL
N.T.S.



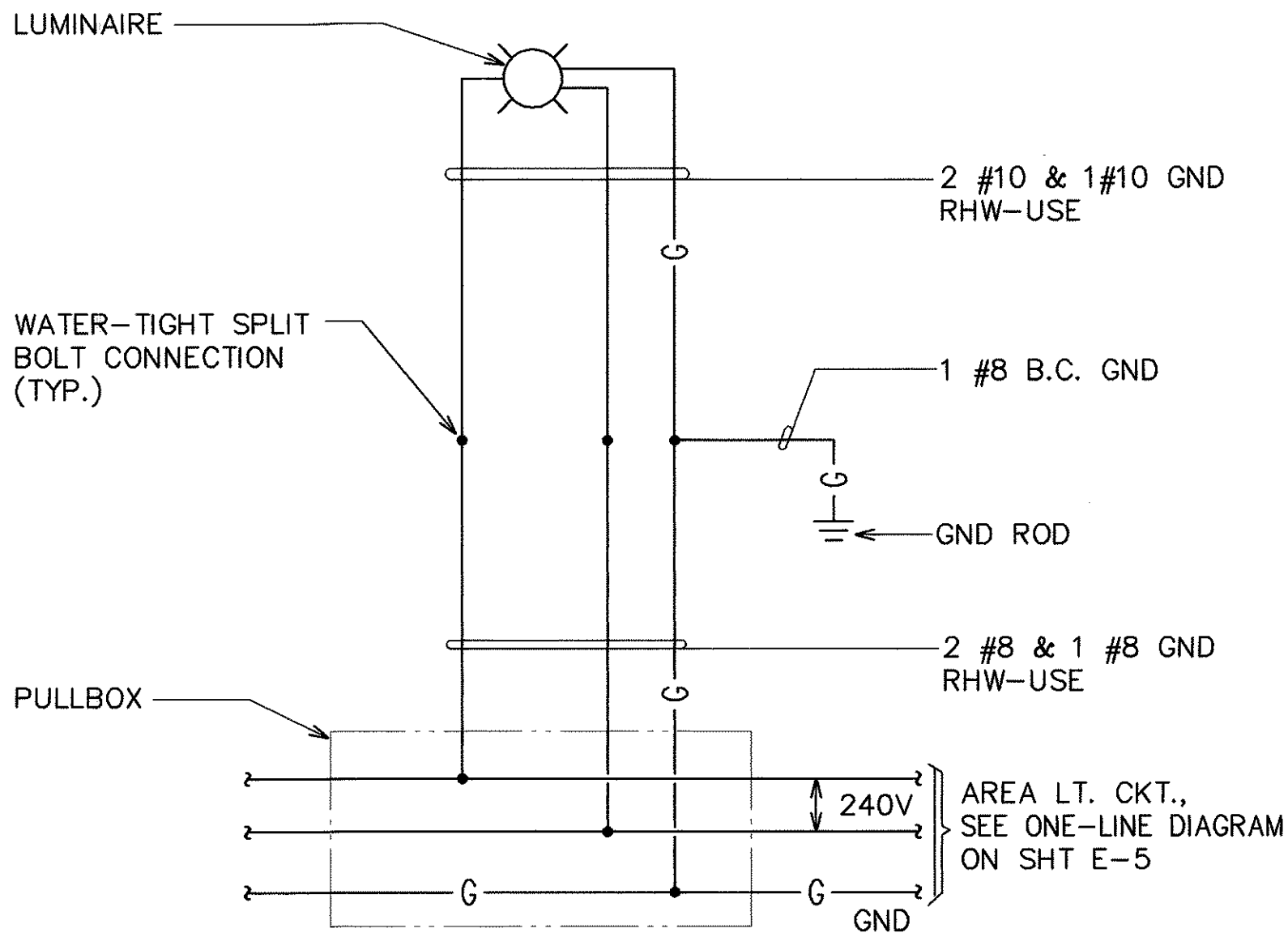
B
E-6
CONCRETE BASE PLAN
N.T.S.



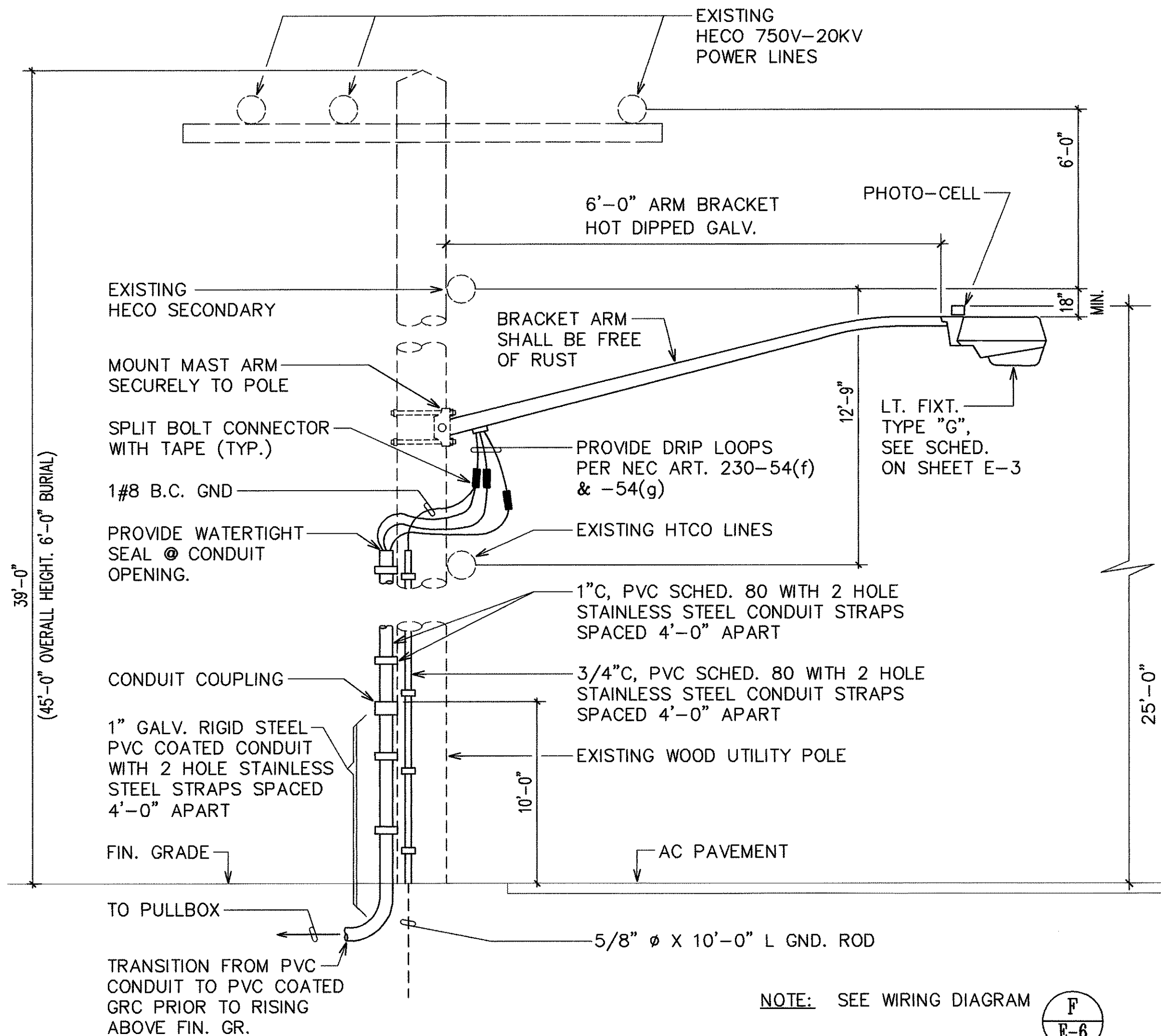
C
E-6
CONCRETE BASE ELEVATION
N.T.S.



E
E-6
TYPICAL STEEL POLE MTD
AREA LIGHT WIRING DIAGRAM

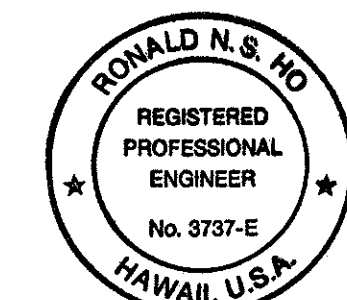


F
E-6
TYPICAL WOOD POLE MTD
AREA LIGHT WIRING DIAGRAM



D
E-6
AREA LIGHT FIXTURE MOUNTING DETAIL
NOT TO SCALE

9/15/94	REVISED AREA LIGHT MOUNTING HEIGHT TO 25'-0"
DATE	REVISION



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5/23/94

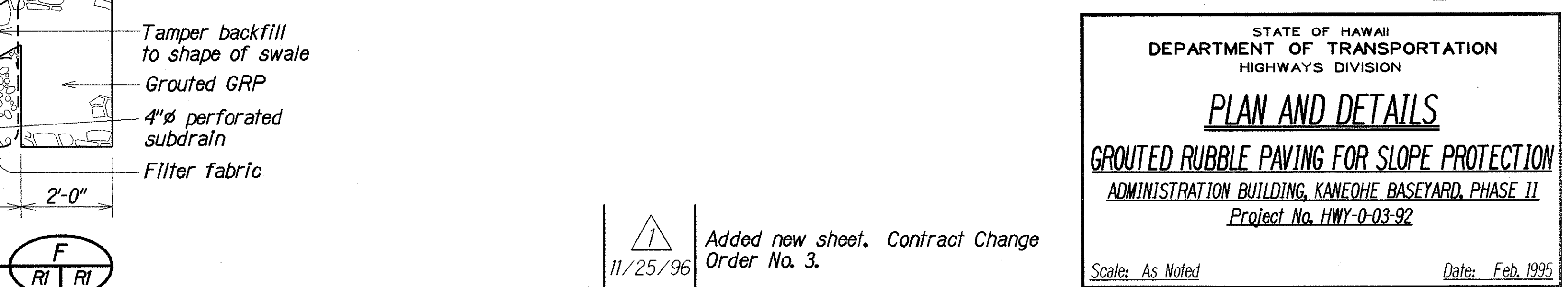
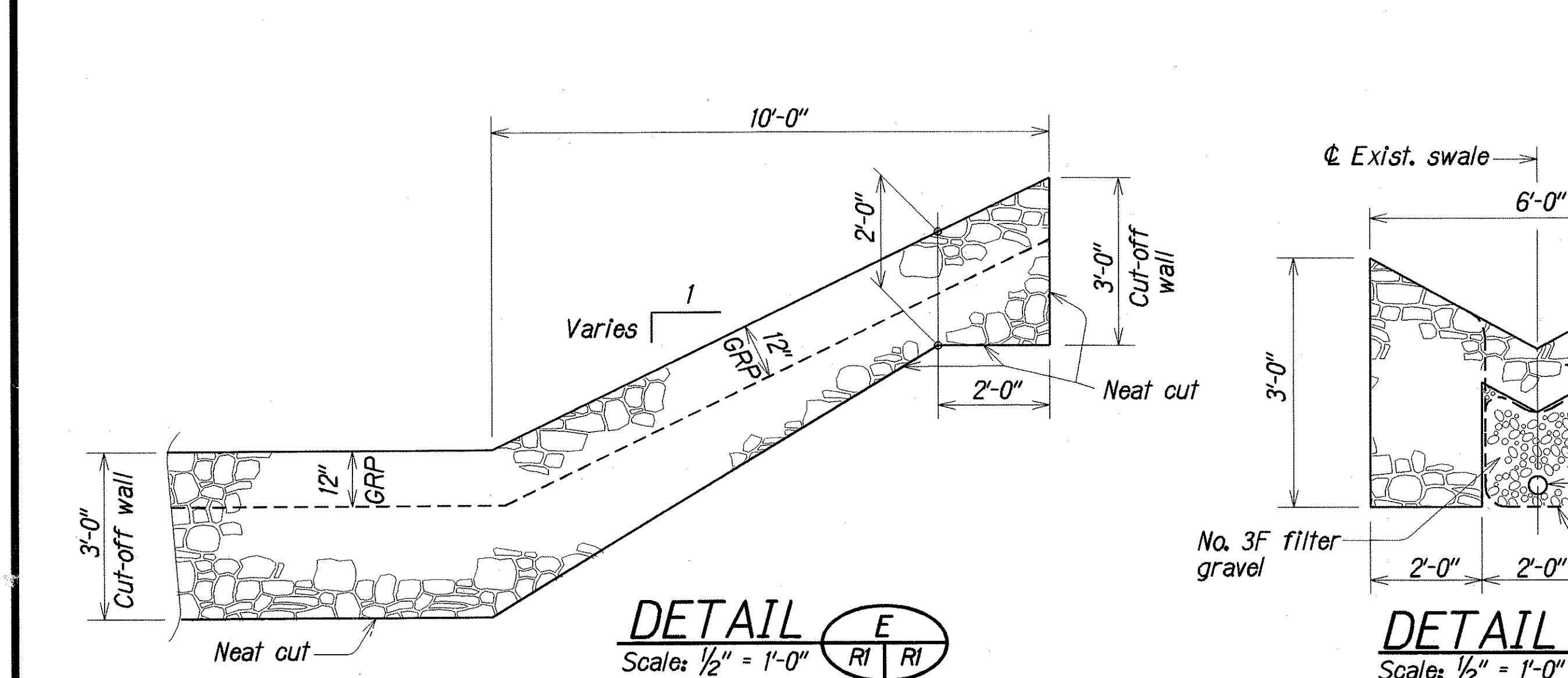
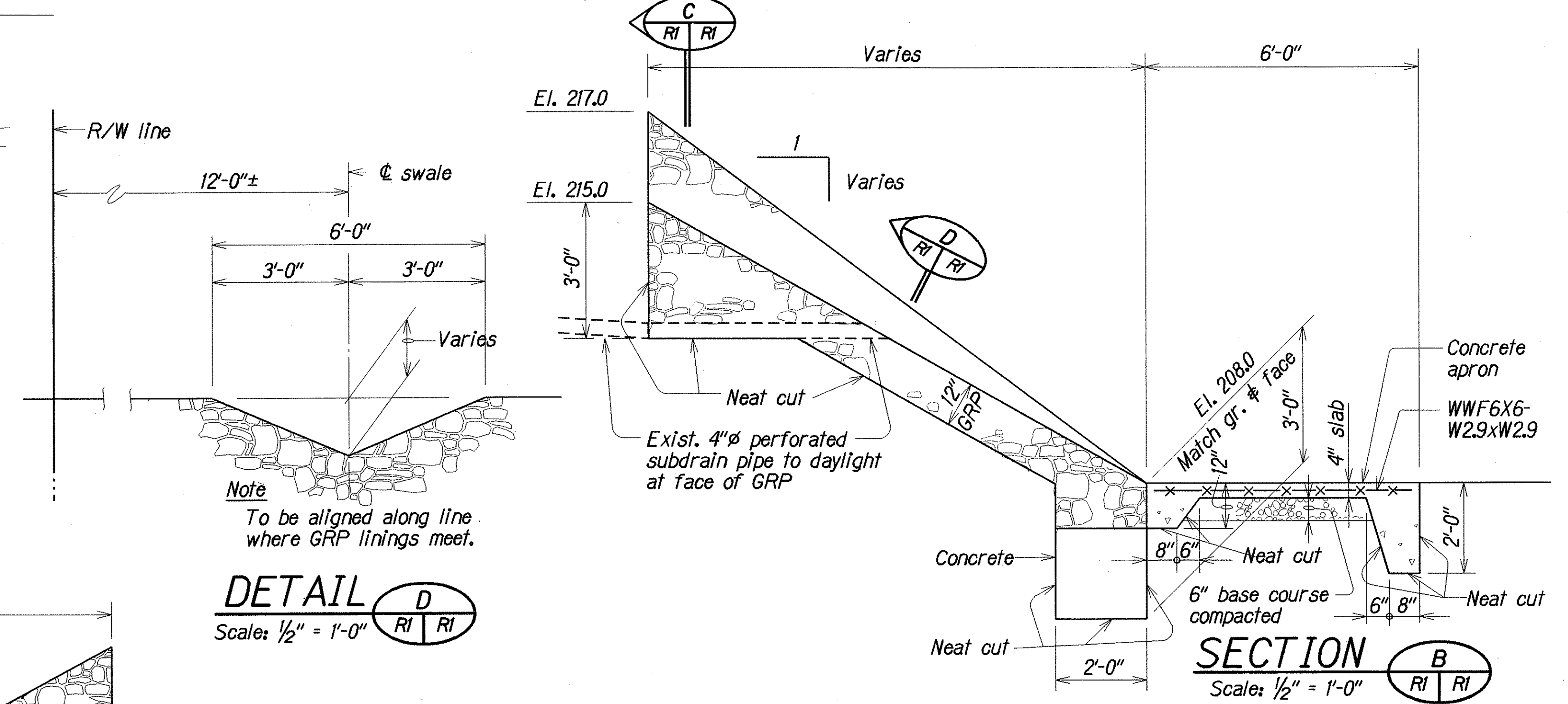
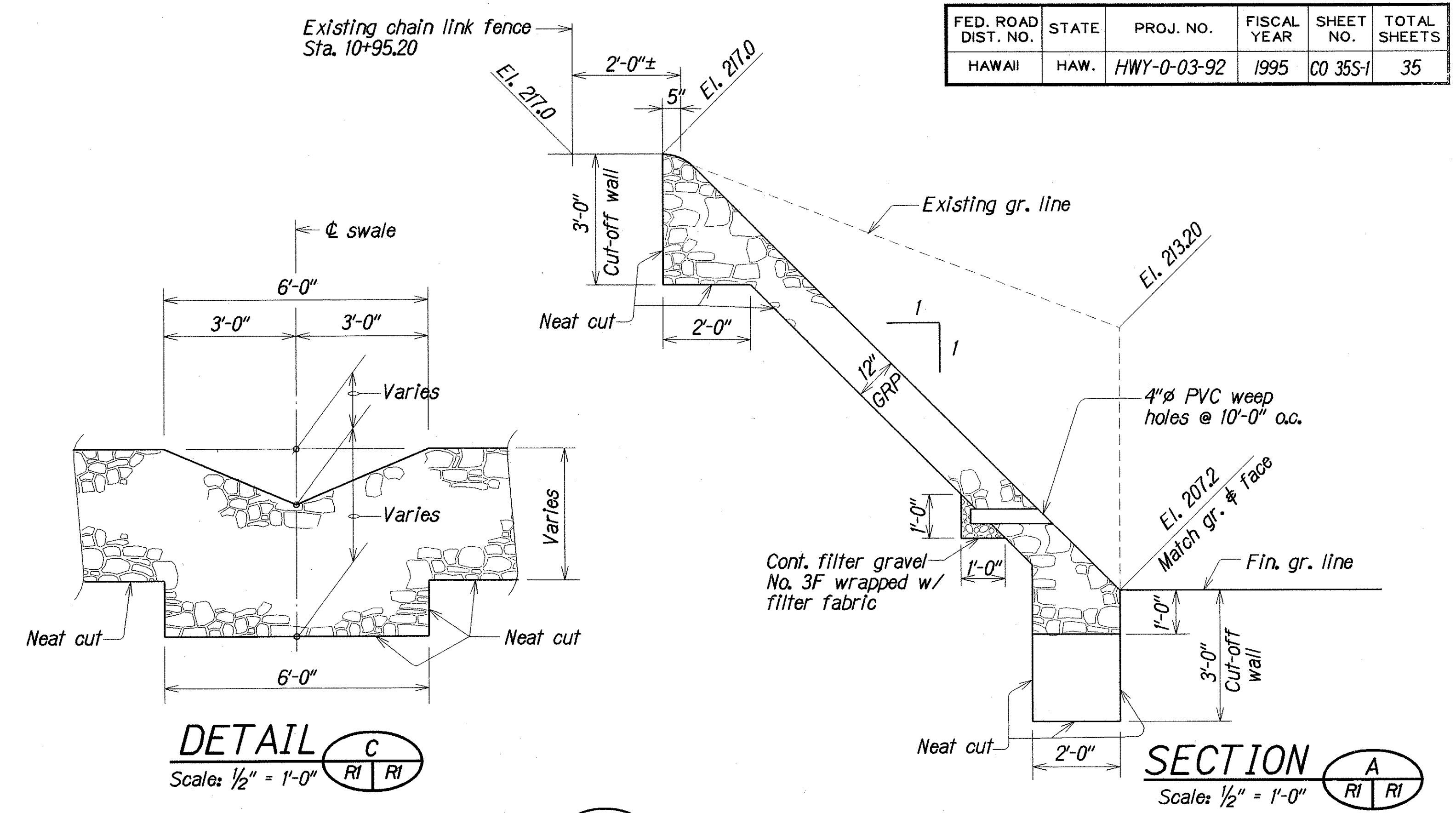
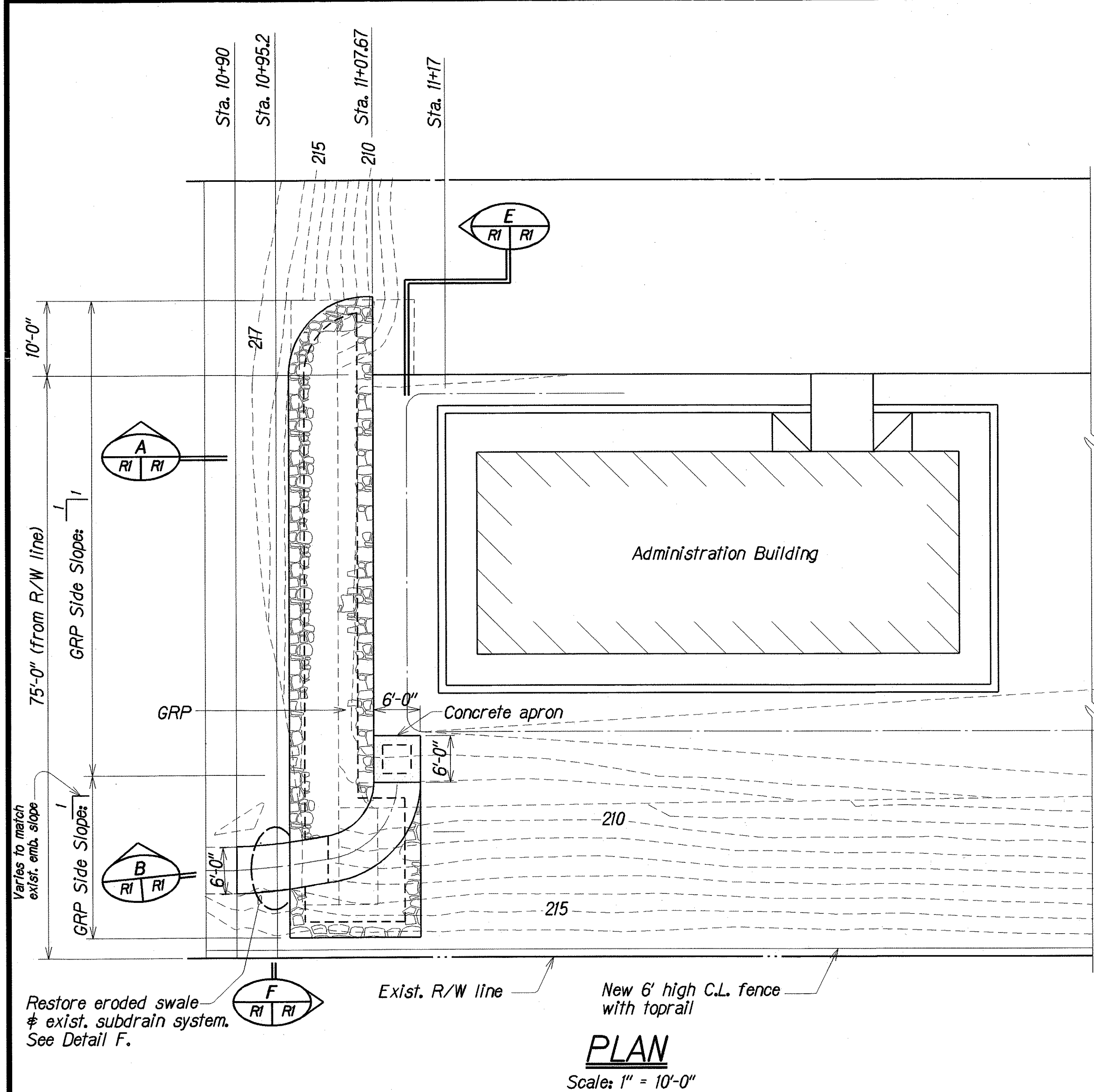
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAILS

KANE OHE BASE YARD, PHASE II
ADMINISTRATION BUILDING
PROJECT NO. HWY-0-03-92

SCALE: AS NOTED
SHEET NO. 35 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-92	1995	CO 35S-1	35



ORIGINAL PLAN	DATE
DESIGNED BY	XXX 1991
DRAWN BY	XXX 1991
CHECKED BY	XXX 1991
QUANTITIES BY	XXX 1991
NOTED FOR	XXX 1991

11/25/96	Added new sheet. Contract Change Order No. 3.
DATE	REVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
PLAN AND DETAILS
GROUTED RUBBLE PAVING FOR SLOPE PROTECTION
ADMINISTRATION BUILDING, KANEOHE BASEYARD, PHASE II
Project No. HWY-0-03-92
Scale: As Noted
Date: Feb. 1995
SHEET No. RI OF 1 SHEETS